

Thermal Fire Detectors

ENGINEER AND ARCHITECT SPECIFICATIONS

MODELS

**DT-135R,
DT-135F,
DT-200R,
DT-200F**

-  Listed
- FM Approved



Introduction

The Cerberus Pyrotronics Thermal Fire Detectors are fixed temperature or combination fixed temperature rate-of-rise type. The combination detectors consist of two independently operated thermal elements. The rate-of-rise element is self-restoring. However, the fixed temperature is of the non-restoring type.

Underwriter's Laboratories, Inc., recommends the combination type thermal detector be used to protect a maximum of 2,500 square feet, and the fixed temperature type be used to protect a maximum of 625 square feet. Job conditions and engineering judgment, however, often dictate closer spacing to provide faster detection.

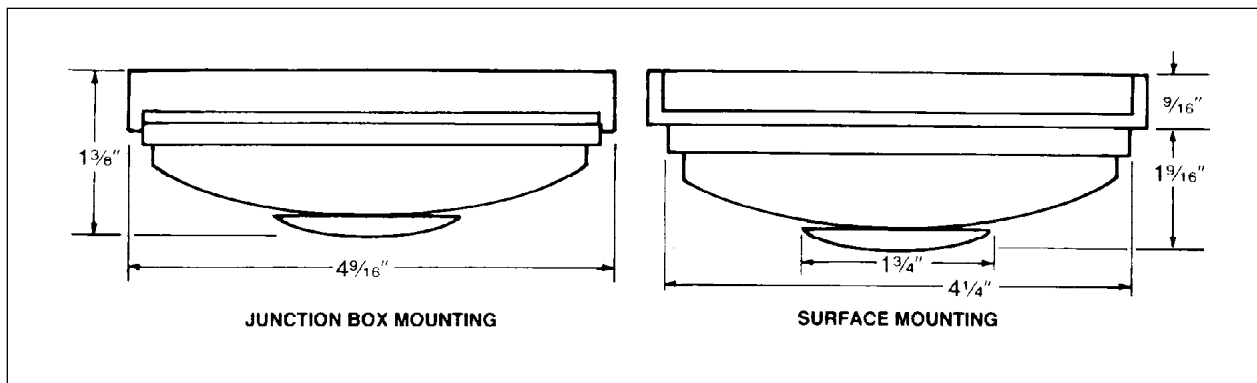
Rate-of-Rise Principle of Operation:

The rate-of-rise element consists of an air chamber, a flexible metal diaphragm and a moisture-proof, trouble-free vent which is carefully calibrated.

It is well known that air expands as it is heated, and contracts as it is cooled. For normal, day-to-day fluctuations of temperature, the expansion and contraction of the air within the chamber is automatically compensated by the "breathing" action of the vent.

However, when a fire occurs, air temperatures rise very rapidly and the air in the chamber expands faster than it can be vented. This creates a pressure which distends the diaphragm and closes electrical contacts.

Mounting Data



The rate-of-rise action is not related to any fixed temperature level, but responds with the utmost promptness when the rate of temperature rise exceeds 15° per minute. If the heat is removed, the air within the chamber contracts and the switch moves to a normally open circuit position.

Fixed Temperature Principle of Operation





In a slow developing fire, the temperature may not increase rapidly enough to operate a rate-of-rise element.

In cases such as described a fixed temperature principle of operation is desired.

The detector utilizes a fixed temperature element made of fusible alloy and is of the non-restorable type.

The fusible alloy will melt and activate the detector when the surrounding air rises above the preset level of 135°F or 200°F.

Ordering Information

Model No.	DT-135R	DT-200R	DT-135F	DT-200F
Description	Rate-of-rise and fixed temperature 135°F	Rate-of-rise and fixed temperature 200°F	Fixed temperature only, 135°F	Fixed temperature only, 200°F
Applications	Normal temperature fluctuations and ceiling temperatures not exceeding 100°F	Normal temperature fluctuations and ceiling temperatures exceeding 100°F but not 150°F	Unusually violent temperature fluctuations and ceiling temperatures not exceeding 100°F	Unusually violent temperature fluctuations and ceiling temperatures exceeding 100°F but not 150°F
Identification on Heat Collector	 NONE	 GRAY RING	 GRAY SPOT	 GRAY SPOT & RING

The external heat collector drops away when the detector is activated therefore giving a quick visual confirmation that the detector has alarmed.

Installation

Each detector includes a thermoplastic reversible mounting plate. In one position it easily attaches to a 4" octagon junction box, 3" octagon box or plaster ring.

In reverse, the plate can be used for open wiring without a junction box. A 1/4" space between detector and mounting surface allows for wire connections. All mounting screws are concealed.

The detector simply attaches to the mounting plate with a push and twist motion. No tools required.

Engineer and Architect Specifications

The thermal fire detector shall be a Cerberus Pyrotronics Model _____ (insert number). It shall operate at a temperature of _____ degrees F (insert temperature). The detectors shall be listed by Underwriters' Laboratories, Inc., and Factory Mutual for use with Cerberus Pyrotronics systems.

Wiring Information

